

List of Claims

1-49. Canceled

50. (New) A CT scanner for scanning of an object comprising:

a tunnel;

a conveyor for moving the object through the tunnel;

a gantry rotatable around the tunnel;

an x-ray source on the gantry for providing an x-ray beam perpendicular to the tunnel;

a first plurality of detectors on the gantry positioned a first distance from the x-ray

source; and

a second plurality of detectors on the gantry positioned a second distance from the x-ray source, wherein the second distance is less than the first distance.

51. (New) The CT scanner of claim 50, wherein one of the detectors in the first plurality of detectors is positioned within the x-ray beam adjacent to one of the detectors in the second plurality of detectors.

52. (New) The CT scanner of claim 50 further comprising a third plurality of detectors on the gantry positioned the second distance from the x-ray source.

53. (New) The CT scanner of claim 52, wherein:

one of the detectors in the first plurality of detectors is positioned within the x-ray beam adjacent to one of the detectors in the second plurality of detectors; and

another one of the detectors in the first plurality of detectors is positioned within the x-ray beam adjacent to one of the detectors in the third plurality of detectors.

54. (New) The CT scanner of claim 50, wherein a distance between adjacent detectors in the first plurality of detectors is different than a distance between adjacent detectors in the second plurality of detectors.

55. (New) The CT scanner of claim 50, further comprising a third plurality of detectors on the gantry positioned a third distance from the x-ray source.

56. (New) The CT scanner of claim 55, wherein:
the x-ray beam intersects an portion of a cross section of the tunnel less than the entire cross section of the tunnel; and
the first, second, and third pluralities of detectors are positioned on the gantry so that the detectors intersect the entire x-ray beam.

57. (New) The CT scanner of claim 56, wherein the x-ray beam intersects one-half of the cross section of the tunnel.

58. (New) The CT scanner of claim 50, further comprising at least one computer for receiving data from the detectors and reconstructing an image of at least a portion of the object.

59. (New) The CT scanner of claim 58, further comprising a data link between the detectors on the gantry and the at least one computer not positioned on the gantry.

60. (New) The CT scanner of claim 59, wherein the data link provides a constant stream of detector data from the detectors to the at least one computer.

61. (New) A CT scanner for scanning of an object comprising:
a tunnel;
a conveyor for moving the object through the tunnel;
a gantry rotatable around the tunnel;
an x-ray source on the gantry for providing an x-ray beam perpendicular to the tunnel, wherein the x-ray beam includes at least two energy levels;
a first plurality of detectors responsive to a first one of the at least two energy levels positioned on the gantry to intersect a first portion of the x-ray beam; and

a second plurality of detectors responsive to a second one of the at least two energy levels positioned on the gantry to intersect a second portion of the x-ray beam separate from the first portion.

62. (New) The CT scanner of claim 61, wherein the first plurality of detectors includes:

- a first subset of detectors positioned a first distance from the x-ray source; and
- a second subset of detectors positioned a second distance from the x-ray source, wherein the second distance is less than the first distance.

63. (New) The CT scanner of claim 62, wherein the second plurality of detectors includes:

- a third subset of detectors positioned a third distance from the x-ray source; and
- a fourth subset of detectors positioned a fourth distance from the x-ray source, wherein the fourth distance is less than the third distance.

64. (New) The CT scanner of claim 61, wherein the first plurality of detectors further includes:

- a third subset of detectors positioned a third distance from the x-ray source, wherein the third distance is less than the second distance.

65. (New) A baggage processing system comprising:

- a plurality of CT scanners for scanning a bag, each of the CT scanners including a computer for processing data from the CT scanner and for reconstructing an image of least a portion of the bag;
- at least one operator review station for displaying a reconstructed image; and
- a network for transferring a reconstructed image from at least one CT scanner to the at least one operator review station for display.

66. (New) The baggage processing system of claim 65, wherein the computer in each of the CT scanners includes means for detecting a potential threat in a bag based upon reconstructed image, and

wherein a reconstructed image is transferred to the at least one operator review station upon detection of a potential threat.

67. (New) The baggage processing system of claim 66, wherein at least one of the plurality of CT scanners is located at an airline check-in desk.

68. (New) The baggage processing system of claim 66, wherein at least one of the plurality of CT scanners is located at an airport security check-point.

69. (New) The baggage processing system of claim 66, wherein at least one of the plurality of CT scanners is located at an airport curb-side check-in area.

70. (New) The baggage processing system of claim 66, wherein at least one of the plurality of CT scanners is located at a location other than an airport to which bags are to be transported.

71. (New) A baggage check-in system comprising:
a first check-in station for passengers to check-in for a flight and to check baggage;
a second check-in station for passengers to check-in for a flight and to check baggage;
and
a CT scanner positioned between the first check-in station and the second check-in station.

72. (New) The baggage check-in system of claim 71, wherein the CT scanner includes:
a tunnel positioned between the first check-in station and the second check-in station; and
a conveyor through the tunnel to move bags from a first side of the first and second check-in stations to a second side of the first and second check-in stations; and

wherein the baggage check-in system further comprises a baggage handling system for removing bags from the second side of the first and second check-in stations for transport to an aircraft.

73. (New) The baggage check-in system of claim 71, wherein the CT scanner includes a computer for detecting a potential threat in a bag prior to moving a bag to the baggage handling system.

74. (New) A method for processing checked bags at an airport comprising the steps of:

at a plurality of locations in the airport performing the steps of:

scanning bags and reconstructing at least one image of a portion of each bag;

detecting a potential threat based upon reconstructed images;

distributing bags to airplanes if a potential threat is not detected; and

transferring the at least one image to a review location if a potential threat is detected;

and

at the review location, performing the steps of:

displaying the transferred at least one image for review by an operator.

75. (New) The method for processing checked bags of claim 74, further comprising the steps of:

at the review location performing the steps of:

receiving in indication from the operator of a threat or not a threat based upon the displayed image; and

transmitting the indication to the location which provided the image; and

at the plurality of locations performing the steps of:

receiving the indication from the review location;

distributing a bag to an airplane based upon an indication of not a threat; and

preventing distribution of the bag to an airplane upon indication of a threat.